

Amendments to the Specification

Please replace the paragraph beginning at page 2, line 3 with the following rewritten paragraph:

-- High speed cameras and/or other sensors have been used to sense and record data about the golf swing and/or initial ball flight characteristics. The data is often displayed for slow speed analysis of a golfer's form during the swing by an instructor and/or the golfer him or herself. The position of the golfer's shoulders, hips, legs and/or head, as well as his or her arms and hands, throughout the golf swing have been captured on high speed still, video and television cameras either in a series of still frames or in videos or movies replayable in slow motion. Some such techniques are described, e.g., at U.S. patents no. 4,713,686, 5,111,410 and 5,210,603. --

- 2 -

SWING-44950
SN 09/495,407
RESPONSE UNDER 37 CFR 1.116

- 3 -

SWING-44950
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Please replace the paragraph beginning at page 10, line 3 with the following rewritten paragraph:

-- In a second aspect of the invention, one or more photosensors are positioned a known distance before the impact position or the golf club with the ball. Preferably, two spaced-apart sensors are positioned before the impact position and the timing between the successive blocking of the two sensors is used to calculate the club speed prior to impact. The timing of the flash of the lamp and/or the triggering of the camera shutter is determined based on the calculated club speed, such that the ball is optimally positioned within the viewing range of the camera. Preferably, when a light signal received by at least one of the photosensors is blocked by the golf club, a trigger signal is sent to a flight capture device including a camera and a at least one flashlamp that flashes a predetermined time or times after receiving the trigger signal for capturing an image of the ball after impact by a camera detector. Also preferably, each of a shutter on the camera and three flashlamps are timed from the receipt of the trigger signal for capturing multiple images in a frame such as on a film or a digital image capturing device. --

Please add the following new paragraph after the paragraph ending on line 8 of page 12:

-- Fig. 1d schematically shows an alternative ball flight monitoring system from that shown in Fig. 1a. --

Please replace the paragraph beginning at page 18, line 18 with the following rewritten paragraph:

-- The sensors 39a and 39b are configured to detect when the club head crosses in front of them, such as by crossing the imaginary lines L1 and L2 shown in Fig. 1d for illustrative purposes. The sensors 39a and 39b are preferably photo-sensitive, and may be motion sensitive or otherwise, for detecting the precise time when the club crosses the imaginary lines L1 and L2. At least one of the sensors 39a or 39b is preferably used for triggering the camera 24 and lamps 26, 28 and 30. The system ~~used~~ uses input from sensors 39a and 39b in determining the club head speed by analyzing the time difference between when the imaginary lines L1 and L2 are crossed by the club head. The club speed is in turn used to estimate the time until the ball will pass into the image field of the camera 24. Using this estimated time, the system will calculate when to shutter the camera 24 and to flash the lamps 26, 28 and 30 to capture images of the ball with the camera. Alternatively, a default of average timing is used from the receipt of the trigger signal by the computer 6 and/or ball flight capture device 22 for shuttering and flashing. --

Please replace the paragraph beginning at page 21, line 13 with the following rewritten paragraph:

-- Fig. 3a shows a display view of three temporally successive images 46, 48 and 50 of a golf ball 14 during flight after impact with a golf club head, wherein each golf ball image 46, 48 and 50 shows an image on the golf ball 14 of a marking 52a, 52b and 52c, respectively. In accord with the present invention. Although three images 46, 48 and 50 are shown, two or more than three images may be captured and used for determining initial flight conditions of the ball 14. Each image is captured by the camera 24 of Fig. 1a when it its shutter is open and light from one of the flashlamps 26, 28 and 30 reflects from the ball through the shutter of the camera 24 and onto an image capture detector. The captured images are sent to the processor 6 for display and/or analysis and evaluation. --

Please replace the paragraph beginning at page 30, line 9 with the following rewritten paragraph:

-- It is emphasized that the flight paths shown and described with respect to Figs. 4a and 4b are only examples to show the kinds of calculations and displays that the present invention can do. Again, the total initial spin including backspin and side spin and the total initial velocity including components ~~is in~~ three dimensions are advantageously determined and used to calculate the flight paths of Figs. 4a and 4b. The aerodynamic lift caused by spin and aerodynamic drag may be used as inputs to figure the total flight characteristics of the ball. Other factors may be inputs for the computer to use in the calculations such as wind, air density or altitude, various club and ball parameters such as club speed and loft, ball cover hardness or durometer reading, ball core spin density, relative impact positions of the club head with the ball, weather conditions such as rain, etc. As noted, the relative impact positions and club speed can be determined in accord with the present invention. --